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Physical Environment

The City of Minneapolis enjoys one of the finest urban environments in the country. The physical environment section contains information on the condition of the city and identifies efforts to protect and enhance the city's environment.

The order of Physical Environment chapter contents was modified for 1998 to more closely coincide with the Environmental Coordinating Team (ECT) Working Group categories of LAND & SOIL, WATER, and AIR.

Many sources contributed to this chapter including the following: Parks and Recreation Board; the Environmental Management Section of the Department of Operations and Regulatory Services; the Metropolitan Council; the Department of Public Works; the Metropolitan Airports Commission; and the Center for Energy and Environment.

This chapter can also be found on the city's web site at: *www.ci.minneapolis.mn.us/planning*

"The chapter on the Natural Ecology focuses on the concept of sustainability and the need to frame decisions about development and growth in the context of their impact on future generations. . . . Minneapolis will manage the use of the city's environmental resources (including air, water and land) in order to meet present needs while considering future concerns."

The Minneapolis Plan
(adopted by the City Council and Mayor, March 2000)

There are numerous tools and strategies by which the city manages, protects, and sustains the Physical Environment. In some cases, federal, state, regional, or other mandates guide city action and policy. In others, the city has developed additional tools that help sustain a healthy physical environment that supports the current and future social, economic, and ecological wants and needs.

Environmental Coordinating Team
In 1994, the Mayor and City Council created the Environmental Coordinating Team (ECT) and charged it with 1) confronting problems associated with past industrial and land use practices, 2) maintaining and improving both the environmental and economic health of the city, and 3) developing programs that provide for a sustainable future. The ECT consists of the directors of the Department of Operations and Regulatory Services, the Planning Department, the Department of Public Works, the Department of Health and Family Support, the Minneapolis Parks and Recreation Board, the Minneapolis Community Development Agency (MCDA), and the City Attorney.

The ECT provides a framework for the regular exchange of information on environmental issues and a forum for the development of consensus. While the ECT is broadly concerned with the stewardship of the natural resources of the city, a working group structure allows targeting of priority issues of particular importance. The ECT's four Working Groups and their dominant issues are land (focusing on contaminated sites), water (focusing on watershed management), air (focusing on energy efficiency), and sustainable development (focusing on land use compatibility). To further enhance the city's environmental efforts, the Mayor and City Council created a Citizen's Environmental Advisory Committee (CEAC) with a principal focus on sustainable development.

Because of its coordinated, resource-based approach, the ECT has provided the city greater accountability on environmental matters. Previously, a department or agency dealt only with its piece of an environmental problem; none bore responsibility for the whole. The ECT approach offers the hope of significant enhancements of the soil, air, and water of Minneapolis, resulting in a cleaner environment and a healthier economy.

New Environmental Services
In 2000, as part of the reorganization of the Department of Operations and Regulatory Services, four environmental programs were combined into the new Environmental Services office: Environmental Health, Lead Hazard Control, Animal Control, and Environmental Management. The mission of Environmental Services is to protect public health and the environment by providing Minneapolis residents with safe food and water, healthy homes, a clean outdoor environment, and animal protection and control.

Sustainable Development
The City of Minneapolis has endorsed sustainability through the ECT. The concept is also one of the essential ideas incorporated into the city's comprehensive plan, *The Minneapolis Plan*. The idea of sustainability has received broad bipartisan support. By embracing sustainability, the city joins with efforts at many levels of government, including the President's Commission on Sustainable Development, the Minnesota Sustainable Development Initiative, and the Joint Center for Sustainable Development established by the National Association of County Organizations and the U.S. Conference of Mayors.

As defined by the United Nations, a sustainable society meets the needs of the present without sacrificing the ability of future generations to meet their own needs. The idea of sustainability implies that the city and its residents should be wise stewards of natural resources, wasting as little as possible.

Some of the city's sustainable development strategies include the following:

- The city helps develop neighborhoods that include a mix of housing, employment, and services. This allows people to meet their daily transportation needs with fewer and shorter trips in vehicles and more trips by bicycle or on foot. The city believes that appropriate mixing of land uses will result in less reliance on the automobile, pedestrian and public spaces that encourage activity, a stronger sense of livability, and friendly density.
- Consistent with Policy 8.g in the *Minneapolis Plan*, the city strives to follow a policy of "transit first" in order to build a more balanced transportation system than the current one.
- The city stresses infill and adaptive reuse of buildings.
- City regulations, policies and practices protect ecologically sensitive areas.
- City policies and practices encourage the conservation of resources through its waste reduction and recycling programs, and the maximization of energy efficiency.

Smart Growth
A key to sustainable development is how we grow and what resources we use and conserve. Generally,

development patterns in the metropolitan area indicate that the demand for housing, commercial and office space, parking, and retail goods and services, results in the consumption of large expanses of land. Every day in Minnesota, an area larger than the Mall of America is developed. Abandoning established communities to build new ones carries a huge price tag. It destroys wildlife habitat, wetlands, and our sense of community, and it is expensive to service. Urban sprawl is one of the most significant causes of resource consumption and pollution. Studies show that dense urban development is significantly more energy and resource efficient and far less polluting than sprawled development. When metropolitan growth occurs in Minneapolis, city growth strategies result in infill developments, increased density in underused areas, and adaptive reuse of existing older structures. Growth in the city means a more efficient use of the already built environment, a reinforcement of the urban fabric, and a strengthening of the entire region at its core. Minneapolis is a model of compact urban form.

In 2000 as in the prior year, there was considerable attention at national, state and regional levels, to the Smart Growth movement. In 1999, at the recommendation of the ECT, the Mayor and City Council signed the City of Minneapolis as one of the charter members of the Minnesota Smart Growth Network, a diverse coalition of builders, non-profits, local governments, and state agencies. There are several principles underlying Smart Growth that address issues from transportation choices to social justice. The heart of the movement is the belief that in order to avoid costly duplication of services and the costly consumption of land, society should make efficient and effective use of land resources and the existing infrastructure by encouraging development in areas with existing infrastructure or development capacity.

Environmental Review

Minnesota Environmental Review Program: The Minnesota Environmental Review Program requires that environmental reviews be completed for projects which exceed certain thresholds that deal with size and with the nature of the project (e.g. large commercial, residential or industrial projects; hazardous waste facilities; and projects that impact historic resources). In most cases, the law requires the city to be responsible for the environmental review for projects located within Minneapolis. The law defines the content and scope of the review and the process and timeline for its completion.

The purpose of the environmental review is to disclose the potential environmental impacts of the project and identify ways to avoid or minimize them. Permitting agencies, including the city, rely on this information for their permitting decisions. The environmental review program has no authority of its own to require any response to the environmental effects disclosed, no matter how significant. It is left to the regulating authorities to implement the mitigative measures identified in the environmental review.

The three most common state reviews are the Environmental Impact Statement (EIS), the Environmental Assessment Worksheet (EAW), and the Alternative Urban Areawide Review (AUAR). The EIS is a very thorough study of the potential environmental effects of the project and of reasonable alternatives to the project. An EAW is a much briefer review that is intended to screen projects that may have the potential for significant environmental effects. If the EAW leads to the conclusion that a project may pose significant environmental risks, then an EIS must be prepared as well. The AUAR is a substitute form of review that blends the requirements of the EAW and the EIS. It merges the scope of an EAW with a level of detail that is closer to an EIS. Like an EIS, the AUAR includes alternative scenarios and a very specific mitigation plan.

Federal Environmental Review Program, the Environmental Assessment: Like the state program, the purpose of the federal Environmental Assessment is to disclose the potential environmental impacts of a project and identify ways to avoid or minimize them. Federal law delegates the review responsibility to the city for most projects located within the city that use federal funds.

2000 Environmental Reviews: In 2000, the city completed twenty-four Federal Environmental Assessments for projects that use federal funds, and the following state-mandated environmental reviews:

EAW for the Near Northside Redevelopment Project: The city is redeveloping a 145-acre site into a mixed-use, mixed-income, culturally diverse, amenity-rich neighborhood. Four public housing developments formerly occupied the site, which is centered in the vicinity of Olson Memorial Highway (TH 55) and Dupont Ave. N. The four-phase project will include approximately nine hundred units of mixed-income housing, the creation of a park and open space system, modifications to Olson Memorial Highway, and construction and enhancement of streets and utilities including a new north-south boulevard. A pond, wetlands, and a watercourse will treat stormwater prior to discharge to the Mississippi River. The city completed the EAW for the project on 9/29/00.

AUAR for the Stinson Technology Campus: The Stinson Technology Campus is planned as a high-technology office campus of up to 3.7 million square feet on twenty-nine acres of industrial land centered on Stinson Blvd. NE between East Broadway and East Hennepin Avenue. The developer, EXCEL Management LLC, will renovate a number of existing buildings and demolish others, replacing them with new construction. The project will include eight office buildings, a day care facility, a new restaurant, and

up to four parking ramps containing approximately 4,400 parking spaces. EXCEL estimates that over eight thousand people will work at the Campus, including the current two thousand employees. The city approved the AUAR for the project on 4/21/00.

AUAR for the SEMI Area: Late in 1997, the city initiated a major environmental review for the entire 300-plus-acre Southeast Minneapolis Industrial (SEMI) area using the AUAR process. The city distributed the draft AUAR on 9/29/00 for public comment. The environmental review focuses on existing land uses, soil conditions, and groundwater pollution. It includes a refinement of the adopted master plan for the area. When adopted (expected during the first quarter of 2001), the AUAR will substitute for the preparation of any EAWs or EISs that would be required for specific projects within the SEMI Area, provided the projects are consistent with the assumptions made in the AUAR.

Travel Demand Management Plans

Transportation accounts for more than half of the air pollution and a significant amount of the soil and water pollution nationally. Travel Demand Management (TDM) Plans serve as important tools for the city to minimize the polluting impacts of transportation. The city's new Zoning Code requires developments of over 100,000 sq. ft. to submit a TDM Plan for approval by the Planning Director. TDM Plans must disclose the expected transportation impacts and detail a mitigation plan. Mitigation measures to be considered include the following:

- Periodic survey of transportation behaviors and desires of the building users (completed generally every two years).
- Periodic status reports (generally every two years).
- Subsidies for users of the alternatives to the single-occupant vehicle (e.g. transit, car and van pools, bicycles, and walking).
- On-site transit facilities and transit pass sales.
- Construction of downtown skyways.
- Preferential siting of car- and van-pool stalls.
- On-site facilities for bicycle storage and for showers and lockers.
- Tenant communication and education programs focusing on the alternatives to the single-occupant vehicle.
- Creation of flextime and telecommuting opportunities.

Since 1997, the city has stepped up its efforts to negotiate stronger TDM Plans from major projects. The city estimated the net present value of the private sector investments in the above mitigating measures for thirteen TDM Plans for major projects. The total is over four million dollars. During 2000, the city approved twelve TDM Plans for projects. In October 1999, the city was presented a Commuter Choice Award for its work on TDM Plans.

The total area of the city is 59 square miles or 37,516 acres. Residential uses represent the single largest type of land use - slightly more than 53 percent of the city's total land area. Public and recreational uses rank second in land usage. The third largest land use is industrial land. Lakes, rivers, and streams cover 6 percent.

Land Use

The Metropolitan Council provided land use information developed from air photos. The information was digitized into the Metropolitan Council's computer using PC ArcInfo.

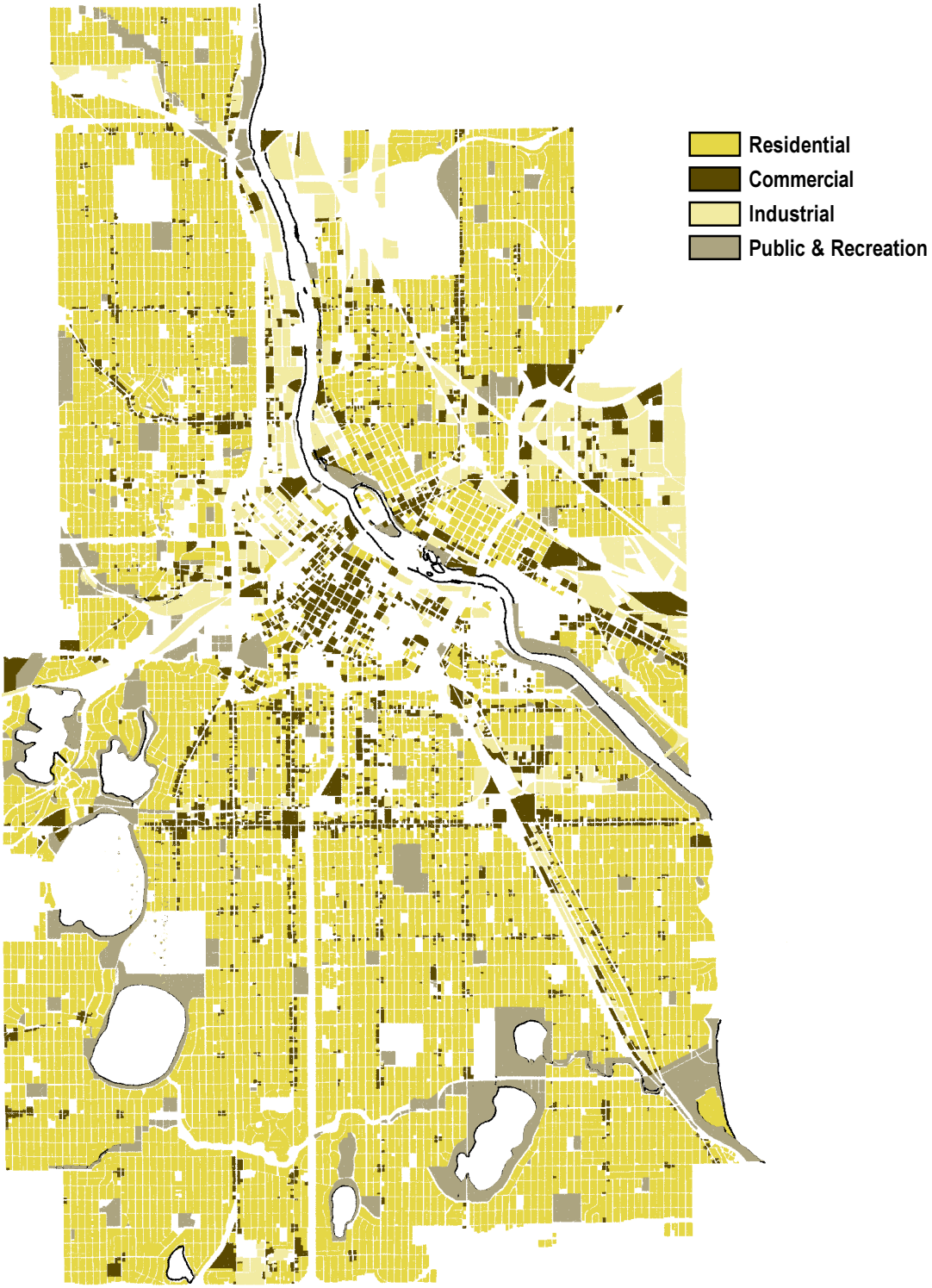
Existing Land Use, 1990: Since 1998, State of the City reports include a different land classification system than used in prior reports. The Metropolitan Council's land use coding of individual parcels is considered more reliable than the system used by the City of Minneapolis Assessor's Office. The Metropolitan Council information is also valuable because it includes data from as far back as 1970. The table below shows the number of acres of land in each classification for the years 1970, 1980, and 1990

MINNEAPOLIS LAND USAGE - 1970 TO 1990
(In Acres)

	1970	1980	1990	% of Total	Change 1970-90
Residential	19,583	19,567	19,676	53%	+ 93
Commercial	1,887	1,887	1,909	5%	+ 22
Industrial	5,448	5,503	5,460	15%	- 64
Public & Recreational (Parks)	5,913	5935	5,986	16%	+ 73
Lakes and Streams	2,248	2,248	2,271	6%	+ 23
Highways >200' R.O.W.	748	1006	1298	3%	+ 550
Non-Urbanized	1,504	1,185	769	2%	- 735
Total	37,331	37,331	37,369[1]	100%	+ 38[1]

[1]The Ryan Lake annexation occurred between 1980 and 1990.

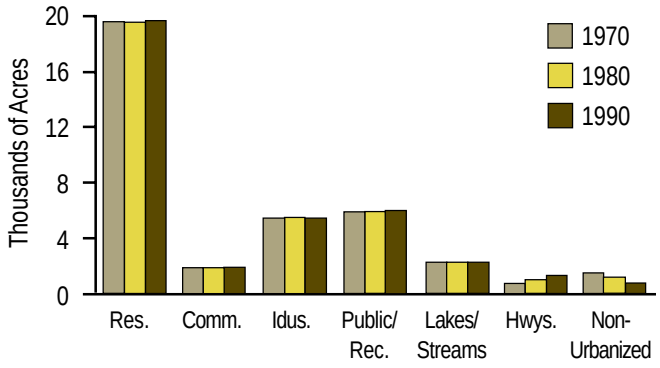
The preceding table shows that the area of the city increased slightly between 1970 and 1990 because of the addition of the Ryan Lake Annexation in the north-west corner of the city. At the request of the City of Robbinsdale, the City of Minneapolis annexed this property. Residential uses account for more than half of all land use in the city. The next largest category of uses is Public and Recreational. This classification includes all the schools, hospitals, cemeteries, and parks in the city. The use 'Highways' had the greatest 20-year increase. Land was converted for the construction of the freeway system and Hiawatha Avenue. The amount of Non-Urbanized Land (land that is vacant or wetlands) decreased by more than one square mile between 1970 and 1990. Only about one square mile in scattered locations throughout the city remains vacant.


Residential
Commercial
Industrial
Public & Recreation

LAND USE - 1992
(In Acres)

Community	Residential	Commercial	Industrial	Trans., Comm. and Utilities	Social/ Cultural	Undeveloped and Unused	Total
Calhoun Isles	1,014	1,401	23	954	612	73	4,077
Camden	1,393	121	135	972	326	119	3,066
Central	131	274	156	990	110	1,844	3,505
Longfellow	1,252	149	122	858	405	18	2,804
Near North	1,192	160	194	998	237	107	2,888
Nokomis	2,027	42	8	1,895	701	9	4,682
Northeast	1,585	179	444	1,705	537	190	4,640
Phillips	335	101	45	417	92	52	1,042
Powderhorn	1,486	139	21	1,075	196	35	2,952
Southwest	2,518	127	42	1,442	667	35	4,831
University	606	364	655	1,331	323	154	3,433
Total	**13,539**	**3,057**	**1,845**	**12,637**	**4,206**	**2,636**	**37,920**

LAND USE: 1970, 1980 AND 1990



Vegetation Management

The wide range of vegetation found throughout the city creates a beautiful, functional and diverse landscape for city residents and visitors to use and enjoy. There are large expanses of turf grass and formal flower gardens. Tall stately trees grace many of the streets, boulevards, and other public spaces. Many natural areas contain native prairie, wetland, and forest species. The Minneapolis Parks and Recreation Board (MPRB), responsible for managing park land and significant portions of the urban forest, uses a comprehensive and integrated approach to vegetation management. This approach enables the MPRB to address the impacts and opportunities associated with maintaining existing vegetation and planning new projects in a balanced manner that maximizes public benefit.

Turf Management: Park areas covered by turf grass are found in a variety of locations and are used in many different ways. The MPRB developed turf management standards for these areas:

- **Athletic Fields:** Grass in areas designated and used for scheduled athletic areas is maintained at a height of 2.5 to 3 inches.
- General Park Lands: Grass in neighborhood parks, parkways, and active use areas may exceed five inches but will be cut back to three inches on a regular basis.
- Maintenance and Natural Areas: The remaining turf areas of the park system, including steep hillsides, wet areas and shorelines, are cut at least once a year to maintain an open landscape and minimize noxious weeds.

Natural Areas: Many of the larger regional parks contain areas that are kept in a wild state. These areas add a variety of color and texture to the landscape, create wildlife habitat, improve water quality, protect shoreline areas from erosion, provide places where people can experience and understand ecological principles, and reduce maintenance costs and the use of chemicals and fossil fuels. Sites such as the Roberts Bird Sanctuary, the Quaking Bog, the Eloise Butler Wildflower Garden and Bird Sanctuary, and the three remnant prairies, are actively managed through a series of practices including prescribed fires, mowing, and removal of exotic species such as buckthorn.

Conversion Program: Recognizing the many benefits of natural areas and native plants, the MPRB has converted a number of sites to native species. Although most of these sites involved conversions from turf grass to prairie grasses and wildflowers, there have been a number of wetland, savanna and forest restoration projects. Since these conversions take many years, the MPRB will continue to monitor and manage the sites to enhance their overall integrity and appearance. Examples of conversion projects include the Cedar Meadows Wetland, the Lake Nokomis Wet Prairie, the Powderhorn Park Shoreline, the Children's Forest along Shingle Creek, the Minnehaha Park Savanna, and the Ridgeway Parkway Prairie.

Buckthorn: As of December 31, 2000 the importation, sale or transportation of the species or any cultivar of Glossy Buckthorn (Rhamnus frangula) will no longer be legal within and into the State of Minnesota. This will include the popular 'Tallhedge' (also known as 'Columnar') and Fernleaf ('Asplenifolia') cultivated varieties. Common Buckthorn (Rhamnus cathartica) has been removed from the nursery market since 1930. (Unfortunately, birds are not aware that they should not provide for Common Buckthorn's further propagation.)

The MPRB's public education efforts to encourage private property removal of buckthorn continue, but progress is minimal. Until buckthorns are removed from all non-park properties, the city will battle this pest forever in our parklands. It is important that MPRB determines a way to work with communities to get buckthorn out of private properties.

Working with neighborhood volunteers this season, Park Board staff cleared mature buckthorn and other invasive plants such as mulberry and honeysuckle from a number of parkland sites. Volunteers and Sentence-to-Serve crews are usually working with MPRB crews in order to clear as much area as possible in the shortest possible period. So far in the season of 2000, forestry crews have worked the following sites:

- East River Parkway, River Gorge bluff from the Shriner's Hospital to Franklin Bridge
- East Lake Harriet Parkway between W. 47th and W. 43rd Streets
- Minnehaha Park south of 54th Street, east of Veterans property
- Birch Pond, Theodore Wirth Park

Wetlands: Park Board staff removed protective fence enclosures from Southwest Calhoun, Cedar Meadows Wetland, and Loring Pond. These wood and mesh enclosures assisted the establishment of shoreline aquatic plants by preventing waterfowl and fish from consuming the plants before they were fully rooted.

Plantings: The following parklands were planted with native prairie grasses and wildflowers during the year 2000:

- Upton Woods, 21st and Upton: The entrance garden and area along the boulevard just west of the railroad tracks was planted by the University of Minnesota's restoration class.

- Cedar Lake Parkway hillsides from Cedar Lake Road (Ewing) to W. 21st, east side of lake.

- Tower Hill Park: Restored pump house at Malcolm and Sydney. A Loring Nicollet Bethlehem (LNB) teen crew installed a prairie garden in the terraced levels surrounding the pump house.

- West Calhoun Parkway, Richfield Road and William Berry Parkway: An LNB summer teen crew planted three triangular garden spaces on the lake side of Richfied Road to dry prairie grasses and wildflowers.

- Windom South Park: A summer Teen Teamworks crew planted a prairie garden by a building entrance.

- Powderhorn Park, Michael Swingley Memorial Prairie Garden: Neighborhood volunteers raised the funds, prepared the garden, and installed the plantings in May. They have adopted the site and will maintain the garden.

- Francis Gross Golf Course: An LNB summer teen crew planted the edges of two ponds to aquatic emergents, moist prairie grasses, and wildflowers. The ponds are located at #11 tee and #6-7 green/tee.

- Theodore Wirth Golf Course: The edge of the pond at the # 5 tee were planted to moist prairie wildflowers and grasses as part of a volunteer effort for an Eagle Scout project.

- River Gorge Savanna, West River Parkway and E. 36th Street: Work continues on this restoration project. The site was 90 percent burned last fall as part of the MPRB's restoration effort. Thousands of Bloodroot (*Sanguinaria canadensis*) wildflowers covered the east facing hillsides adjacent to the parkway in early spring. These wildflowers had not been evident when buckthorn decimated the site. Once buckthorn is removed from sites, the "dormant natives" are able to thrive.

Aquatic Plants: Eurasian watermilfoil has been an increasingly evident problem in several Minneapolis Lakes. Milfoil causes problems on several levels. From an ecological standpoint, it out-competes native species and reduces the available habitat for fish and other organisms. From a recreational perspective, milfoil is problematic in that it forms dense floating mats that interfere with boating and swimming, reduce overall aesthetic appeal of area lakes, and wash up on shorelines as smelly green piles.

No environmentally safe method has been proven to rid lakes of milfoil, but several management methods exist to treat the symptoms of infestation. The MPRB primarily uses harvesting to control the growth of milfoil in city lakes, but is assisting the University of Minnesota in exploring the potential of using milfoil beetles (weevils) to naturally control nuisance growth. Harvesting milfoil is analogous to mowing a lawn. Only the top two meters of the milfoil plants are removed, but this temporarily allows for problem-free boating and swimming.

The Minnesota Department of Natural Resources requires a permit to remove or control Eurasian watermilfoil. These permits limit the area from which milfoil can be harvested. The 2000 permits issued to the Minneapolis Park and Recreation Board allowed for harvesting primarily in swimming areas, boat launches and in shallow areas where dense growth occurs.

Lake	Area Harvested	Lake Surface Area
Calhoun	50.0 acres	421 acres
Cedar	30.0 acres	170 acres
Harriet	50.0 acres	353 acres
Isles	44.5 acres	103 acres

Summary of harvested area of Eurasian watermilfoil in Minneapolis lakes.

Urban Forest

Mature, healthy trees in the city provide many pleasures and serve many purposes. Strategic tree planting is a proven complementary approach to conserving energy because trees and other foliage provide shade and form windbreaks. Trees clean the air, help transform pollutants, and convert carbon dioxide, the primary "Greenhouse" gas, into oxygen. Interception and storage of rainfall by trees helps to lower storm water runoff volume and rate. Mature trees buffer noise and beautify the city in simple and effective ways. Boulevard trees that extend their leafy canopies over streets also help calm traffic.

In 2000, the MPRB Forestry Section planted over 4,100 new trees on boulevards and in parks with funding provided by People for Parks (PFP), the Neighborhood Revitalization Program (NRP), Public Works, private donations, local and federal funds. Since 1992, nearly eleven thousand trees have been planted using NRP funds, and over five hundred trees planted as part of the Department of Public Works re-paving projects.

The "Official" Minneapolis Arbor Day Celebration took place on Saturday, May 13, in Loring Park with the theme "Planting 117 Trees in Honor of 117 Years of Enjoyment." Two groups, Friends of Loring Park and People for Parks, donated $10,000 for the 117 new trees. "Elmer" the elm tree and MPRB Forestry Staff gave planting demonstrations and over 200 volunteers planted the new trees throughout Loring Park.

On April 29, at a special ceremony in Nebraska City, home of Arbor Day, the National Arbor Day Foundation presented awards to the MPRB's 1999 Arbor Day Celebration "Planting Lake Nokomis," and the Phillips ETC "Reforestation of Phillips Project." The Foundation, a nonprofit educational organization dedicated to tree planting and environmental stewardship, annually recognizes outstanding accomplishments in tree planting, care, conservation, and environmental stewardship.

For the twenty-first time, the National Arbor Day Foundation presented the city the "Tree City USA Award" for continuing the commitment to a strong urban forest program. The city also received its sixth consecutive "Tree City USA Growth Award" for producing a video to help combat the problem of trunk damage caused by operators of lawn mowers and weed whips.

In 2000, the MPRB Forestry Section planted sixty-two trees that were donated by People for Parks, a private non-profit group that assists with reforestation projects in Minneapolis parks. People donate the trees to the group to mark a significant event in their lives such as a memorial for a loved one, an anniversary or birthday, the birth of a child, a graduation or wedding. In 2000, forestry staff collaborated with twenty-two separate volunteer projects to plant and water new trees and mulch over one thousand trees. "Elmer" the elm tree continues to be very active at park and neighborhood events. "Elmer" provides educational programs to youth grades K-4 and also attends neighborhood celebrations, special events, and parades throughout Minneapolis.

Minneapolis continues to combat Dutch Elm Disease (DED). In 2000, a Minneapolis ordinance made it unlawful to store elm wood in the city. Since 1963, over 130,000 diseased elm trees have been removed citywide.

Environmental Education Programs

J. D. Rivers Discovery Center: Demand for the environment and horticultural programs offered at the J. D. Rivers Outdoor Discovery Center in Theodore Wirth Regional Park and the community outreach sites has increased from 270 participants in 1996 to over 2,000 participants in 2000. In spite of the significant increase in demand for programs and activities, the Discovery Center will continue to offer excellent programs free of charge. However, with this growth and interest, the current facilities are inadequate to meet the full demand for resources.

Environmental Education: Each week from April 1st through October 15th, MPRB naturalists offered a wide variety of interpretive programs in the regional park system with a strong focus at Theodore Wirth Park, utilizing the Quaking Bog and the Eloise Butler Wildflower Garden and Bird Sanctuary. 2000 marked the second year of the MPRB's interpretive programming at Neighborhood Recreation Centers. The Neighborhood Naturalist Program provides fun, hands-on environmental education programs for preschoolers, school age kids, teens, adults, and seniors. The goal of these programs is to help people connect with the natural world, kindle their curiosity, and promote environmental stewardship in their own "backyard." Over 2000 hours of Neighborhood Naturalist programs were provided across the city throughout the year.

Neighborhood Naturalist Program: This program provides environmental education and activities at the MPRB's fifty recreation centers. MPRB Naturalists provide fun, hands-on programs for preschoolers, youth, teens, adults, and seniors. Less than two years old, the program continues to grow, with close to two thousand hours of programming provided this year.

Land Recycling

The soil of the city is a valuable natural resource. During the Pleistocene Period, glaciers scoured the earth's surface and deposited a fertile loam across the city. This soil is not only the foundation for structures, it provides valuable nutrients for lawns and gardens and it purifies groundwater. Pollution threatens these important functions.

Since the city draws its drinking water from the Mississippi River, most polluted sites do not pose an immediate threat to the health and safety of the public. The contamination of these sites does, however, pose a threat to the economic viability of the city.

Often, parties responsible for contaminating the land have moved on and are no longer available to finance its cleanup. Consequently, tracts of vacant land sit idle and become targets for vandalism, illegal dumping, and blight resulting in an eroded tax base.

The Environmental Management Section of the city's Inspection Division is responsible for regulatory authority over contaminated sites in the city. The city's Contaminated Sites Working Group, composed of city staff, has been instrumental in the cleanup of contaminated land. This group has also been instrumental in developing new cleanup standards, applying cleanup technologies, and developing legislation to finance remediation efforts. The city is a national model in reclaiming industrial sites.

Superfund Site Cleanup: Minneapolis has had 25 federal- or state-designated Superfund sites where past contaminant releases threaten public health or the environment. Of these sites, six have been cleaned and had their Superfund designation removed. Included among these is the Whittaker site in northeast Minneapolis that was de-listed in 1999. The remaining nineteen sites are the focus of Superfund laws such as the federal Comprehensive Environmental Response, the federal Compensation and Liability Act (CERCLA), and the Minnesota Environmental Response and Liability Act (MERLA). Perhaps the most significant contribution of this environmental legislation is the creation of environmental awareness by industries. Industries now operate under strict environmental regulations.

Other sites that are still "open" have undergone significant cleanup and redevelopment in the past couple of years, such as the Minneapolis Gas Works (Minnegasco Company) and B.J. Carney sites. Doc's Auto in North Minneapolis recently underwent significant cleanup and two additional sites, Martin Bush and Shafer Metal, are expected to undergo cleanup in the near future. Many of the remaining sites continue in their cleanup phase and are regularly monitored for progress.

Petroleum Tank Release Cleanup: Since 1979, there have been more than 825 confirmed petroleum tank leak sites in the city. Since 1987, 685 have been cleaned to standards set by the Minnesota Pollution Control Agency (MPCA). Tank owners who perform cleanups in accordance with MPCA guidelines are eligible for reimbursement up to 90 percent of the total cost of cleanup through the state-funded Petrofund program.

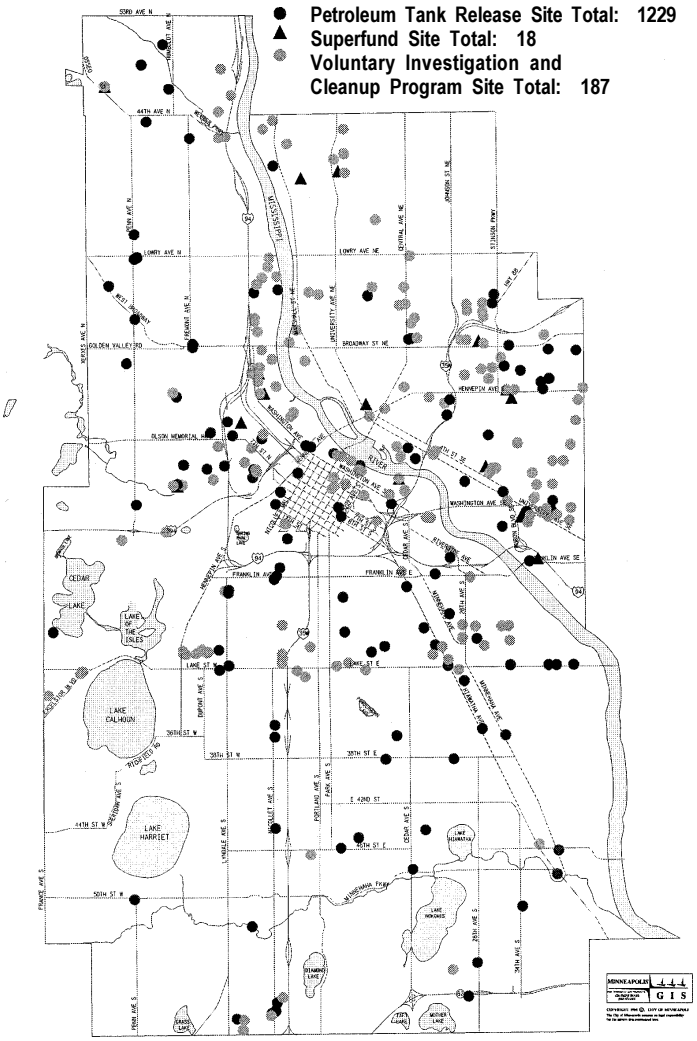
Effective December 1998, federal law mandates that underground storage tanks (with some exceptions) must meet United States Environmental Protection Agency (USEPA) regulatory requirements. Included are requirements for leak detection, corrosion protection, and spill and overfill prevention. Tanks not meeting state and federal standards must be excavated and removed. Tanks that have not been in service for more than one year must also be removed in accordance with the State's Uniform Fire Code and Minnesota Rules.

Voluntary Investigation and Cleanup Program: The MPCA created this program to encourage voluntary participation, investigation, and cleanup of contaminated land. A few of the wide range of possible contaminants include lead, pesticides, and wood preservatives. Participants are required to meet MPCA standards to receive a certificate of completion. The certificate is a written guarantee providing protection to property owners from future liability. Since1986, over 200 properties within the city have entered the voluntary program, and over 25 sites have received completion certification.

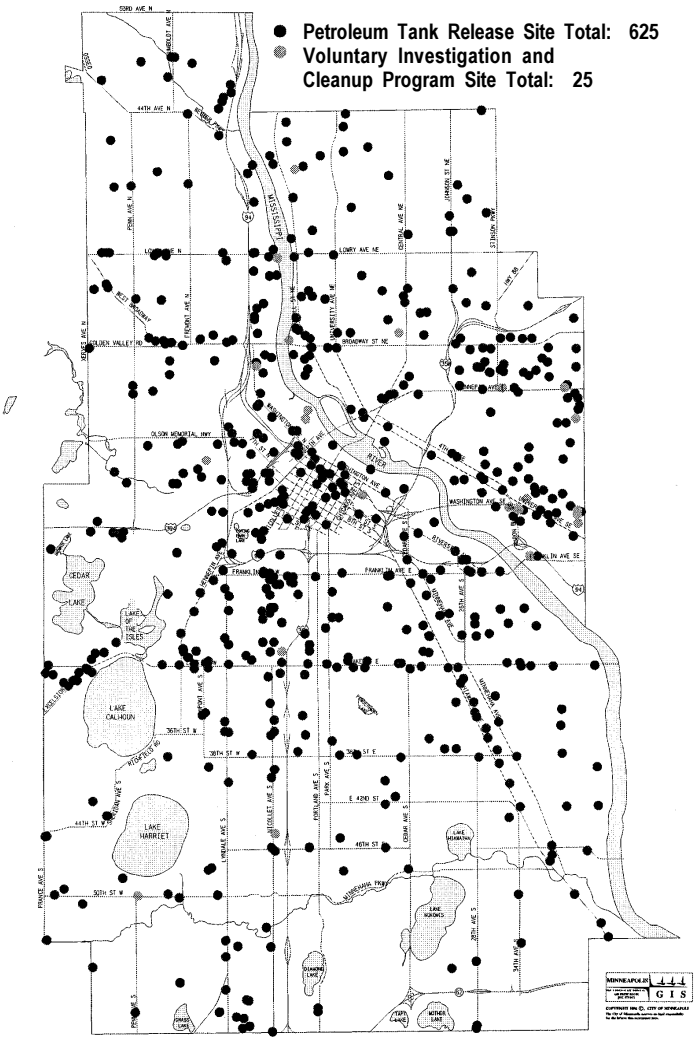
Brownfield Redevelopment: The term 'brownfields' refers to properties that were contaminated by a prior use and that were subsequently abandoned or underused. When cleaned up, brownfields are suitable for redevelopment. Most of these sites are the source of serious concerns regarding environmental liability for potential developers, but are not contaminated enough to immediately threaten public health or the environment. Because there are no known immediate threats, these sites are not identified as Superfund sites, and neither the MPCA nor the USEPA will act to clean them up. Without assistance or incentives, few developers are interested in doing so due to environmental liability concerns.

Minneapolis was among the first cities in the country to reclaim brownfields for productive uses. The MCDA is actively involved in remediating polluted sites for redevelopment. The Public Works Department cleans up properties owned by the city that may have been contaminated in the past and the Parks and Recreation Board restores brownfield sites for a variety of open space uses.

CONTAMINATED LAND CLEANUP: OPEN SITES



CONTAMINATED LAND CLEANUP: CLOSED SITES



Contamination and Metropolitan Livable Communities Grant Program: During 2000, the Minneapolis Community Development Agency (MCDA) was awarded $2.2 million in pollution cleanup grants under the Contamination and Metropolitan Livable Communities Grant Programs for the following projects:

- **Penn Lowry Development:** The city received a grant of $48,331 from the Metropolitan Council and a grant of $251,276 from the Minnesota Department of Trade and Economic Development for the cleanup of petrochemical-related soil contamination. The cleanup will support redevelopment as a commercial corner at Penn and Lowry in North Minneapolis.

- **Urban Village:** The city received a grant of $231,276 from the Metropolitan Council to cleanup petrochemical and lead contamination on sites adjacent to the Midtown Greenway Corridor. Reuse would be two hundred units of mixed-income, owner occupied, and rental housing with a variety of price points.

- **Grain Belt Brew House:** The city received a grant of $1,046,097 for the removal of hazardous materials from this building, such as ballasts, fluorescent tubes, thermostats, and other miscellaneous products. Ryan Companies US, Inc. has submitted plans to redevelop the facility as office space for RSP Architects Ltd., allowing this firm to relocate 150 jobs to this central location. Ryan Companies' proposal also allows for 213-236 parking spaces.

- **Traffic Zone Boiler House**: The city received a grant of $72,115 to support the removal of asbestos. The Traffic Zone Center for Visual Arts, at 333 Washington Avenue North, features a mix of studios for mid-career artist and market rate commercial tenants. Traffic Zone is listed on the National Registry of Historic Places and was designed for visual arts usage. In partnership with the artists occupying the building, ArtSpace owns the Center. Reuse of the boiler house includes development of two-floor space suitable for creative business needs.

Since 1994, the city has secured $17.6 million in grants under these contamination programs.

Illegal Dumping

Sites used for illegal dumping often include abandoned industrial, residential, or commercial buildings; vacant lots on public or private property; and alleys or roadways. Illegal dumping can occur at any time of day but is more common at night or in the early morning hours during warmer months. If not addressed, illegal dumps often attract more waste, including hazardous wastes such as asbestos, household chemicals and paints, automotive fluids, and commercial or industrial wastes.

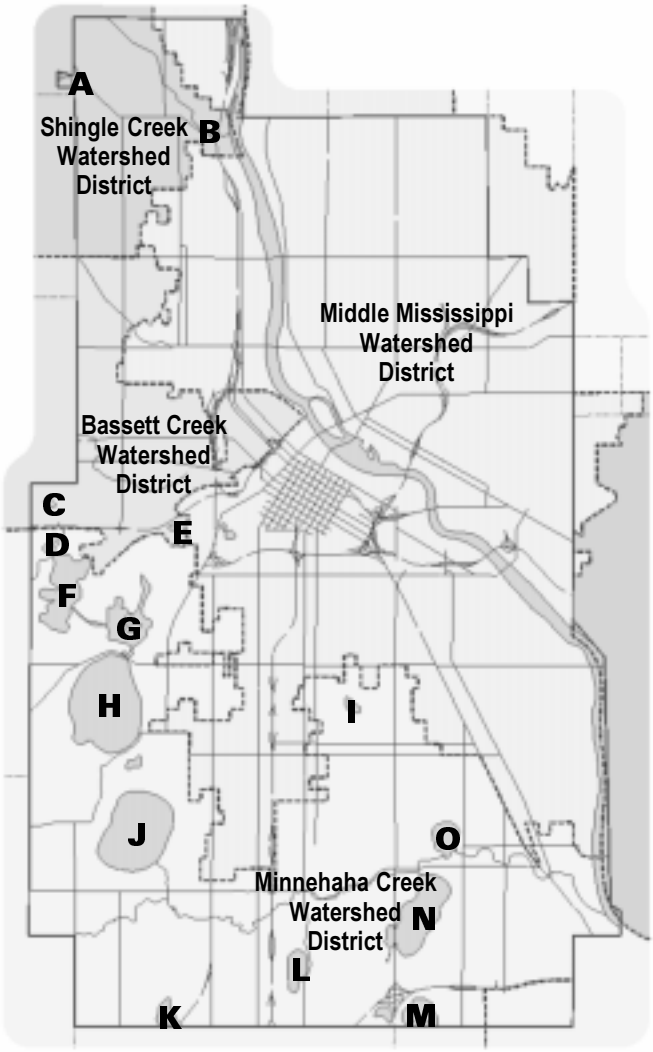
The health risks associated with illegal dumping are significant. Areas used for illegal dumping may be easily accessible to people, especially children, who are vulnerable to the site hazards such as physical hazards (protruding nails and sharp edges), and chemical hazards (harmful fluids or dust). Rodents, insects, and other vermin attracted to dump sites may also pose health risks. Dumpsites with scrap tires provide ideal breeding grounds for mosquitoes that can multiply one hundred times faster than normal in the warm, stagnant water pooled in scrap tires. Severe illnesses, including encephalitis and dengue fever, have been attributed to disease-carrying mosquitoes originating from scrap tire piles.

The problem of illegal dumping has grown. It affects every ward in the city. Many of these dumping sites result in difficult and lengthy investigations. Successful prosecution requires eyewitness identification and material evidence. Illegal dumping also strikes at the heart of neighborhood livability. No one wants to live near a site that is the target of illegal dumping. The city's Housing and Environmental Inspections and Solid Waste and Recycling Departments have implemented an aggressive joint enforcement of the illegal dumping ordinance.

Minneapolis — "The City of Lakes" — has within its boundaries:

- **The Mississippi River;**
- **Bassett Creek, Minnehaha Creek, and Shingle Creek;**
- **Brownie Lake, Cedar Lake, Diamond Lake, Grass Lake, Lake Calhoun, Lake of the Isles, Lake Harriet, Lake Hiawatha, Lake Nokomis, Mother Lake, Powderhorn Lake, and Ryan Lake;**
- **Birch Pond, Webber Pond, Spring Pond, the Lake in Lakewood Cemetery; and**
- **Five unnamed wetlands.**

WATERSHED MANAGEMENT ORGANIZATIONS



A. Ryan Lake
B. Webber Pond
C. Birch Pond
D. Brownie Lake
E. Spring Pond
F. Cedar Lake
G. Lake of the Isles
H. Lake Calhoun
I. Powderhorn Lake
J. Lake Harriet
K. Grass Lake
L. Diamond Lake
M. Mother Lake
N. Lake Nokomis
O. Lake Hiawatha

Watershed-Based Management
In order to best manage its water resources, the city has adopted a watershed management perspective, using the natural drainage patterns of the land to better understand how all activities within our watersheds affect the health of our water resources. Keeping our river, lakes, creeks, wetlands, and groundwater clean and healthy involves planning on a watershed basis to prevent nutrients, pollutants, and sediments from entering our waters. Prevention is the preferred approach. Once a water body has been damaged it is expensive, if not impossible, to restore.

Four watershed management organizations participate in the administration of water resources within the city: The Middle Mississippi River Watershed Management Organization, the Bassett Creek Water Management Commission, the Shingle Creek Watershed Management Organization, and the Minnehaha Creek Watershed District. Each organization was created to protect, enhance, and restore the surface and groundwater resources within its jurisdiction through education, management, and enforcement. Environmental Management staff participate on the Minnehaha Creek Watershed District's Project Advisory Committee for the Hydraulic and Hydrologic Study and Pollutant Loading Model for Minnehaha Creek.

The Mississippi River
The Mississippi River is essential to the ecological health of the region. It is an invaluable cultural, historic, and recreational resource. Minneapolis is the first major urban area graced by the Mississippi as it moves through the heart of the country. Indeed, the use of the river's St. Anthony Falls for a hydroelectric power plant, one of the first in the Western Hemisphere, was the impetus for settling the city.

1999 saw the development of two draft planning documents that hold the promise of positive change for the city's portion of the Mississippi River corridor: The Middle Mississippi River Watershed Management Plan (MMRWMO Plan) and the Upper Mississippi River Master Plan. The MMRWMO Plan is a document that includes watershed management techniques and an implementation schedule for the policies, programs, and projects. This Plan has been formally reviewed by regional, state, and federal agencies and is currently being modified to reflect the comments of those agencies. The Upper River Master Plan sets forth a dramatic new vision of revitalization for the Upper River, which includes significant new open space and residential additions to the river corridor. It is the result of an extensive collaboration between the city, the Minneapolis Park and Recreation Board, Hennepin County, residents, and businesses.

The river's presidential designation in 1998 as a National Heritage River, as well as earlier designations by the National Park Service (Mississippi National River and Recreation Area) and the State of Minnesota (Mississippi River Critical Area), highlight the importance of the river corridor. The city consolidated in its Critical Area Plan the policies and implementation strategies to protect the natural, cultural, historic, commercial, and recreational value of the river corridor.

River Corridor Goals: The city intends to guide the use and development of the Mississippi River corridor to achieve the following goals:

- **Natural Resources:** Preserve, enhance, and interpret natural resources. Protect and preserve the biological and ecological functions of the corridor.
- **Visual Quality:** Protect and enhance the views to and from the river, and up and down the river so that people may enjoy the natural beauty of a major waterway in an urban setting.
- **Cultural Resources:** Preserve, enhance, and interpret the archaeological, ethnographic, and historic resources of the river corridor.
- **Economic Resources:** Provide for continued economic activity and development in a manner consistent with the other goals. Protect and preserve the river as an essential element in the systems of transportation, water supply and recreation.
- **Neighborhood Revitalization and Stabilization:** Leverage the natural beauty, recreation, and economic development features of the river as a means of sustaining the quality of nearby neighborhoods and the city as a whole.
- **Outdoor Recreation and Tourism:** Enhance opportunities for outdoor recreation, education, and scenic enjoyment. Continue to make the river an important part of any visitor's appreciation of Minneapolis. Continue to build the riverfront as a major element of the local and regional parkway systems.
- **Public Understanding:** Improve the public's understanding of the river and promote public stewardship of its resources. Recognize and strengthen the public understanding of the river and the dynamic role it plays in the city's heritage, quality of life, and legacy for future generations.

Source: *Mississippi River Critical Area and MNRRA Plan,* September 15, 1998

The Lakes
Lake scientists have monitored the city's lakes on a biweekly basis since the early 1990s as a part of the Clean Water Partnership program. By studying long-term trends in basic water chemistry, nutrient levels, overall water quality, and biological communities, lake managers can determine the most effective actions to

improve the biological health and overall recreational quality of the lakes. In 1999, lake scientists from the MPRB monitored thirteen of the city's most heavily used lakes. The results were used primarily to estimate the fertility or trophic state of the lakes. By assessing lake fertility, managers can determine if algae and water plants are likely to be problems, or if a lake will be clear and beautiful. Lakes that are determined to be very fertile, or eutrophic, can then be managed by reducing nutrient levels to prevent algae blooms.

Scientists estimate lake fertility, or trophic state, by using water quality measurements and a mathematical formula called a Trophic State Index, or TSI. Three different lake measurements comprise a TSI score: water transparency, chlorophyll content, and phosphorus levels.

- Water transparency is measured with a black and white disk called a Secchi disk. The Secchi disk is lowered slowly into the water until it can no longer be seen. The depth at which it disappears is called the Secchi depth.

- A test of Chlorophyll-a indicates how much algae is in a lake. Algae are the tiny one-celled plants that can turn lakes green. Chlorophyll is the green pigment that plants use to capture the sun's energy. By measuring the amount of chlorophyll in lake water, scientists can estimate the amount of algae. Most of the city lakes sampled had moderate levels of algae during 2000.

- Phosphorus is the most important type of "fertilizer" for most algae. By measuring the amount of phosphorus in the lakes, scientists can get a good idea of how much algae can grow, and if algae blooms will be likely.

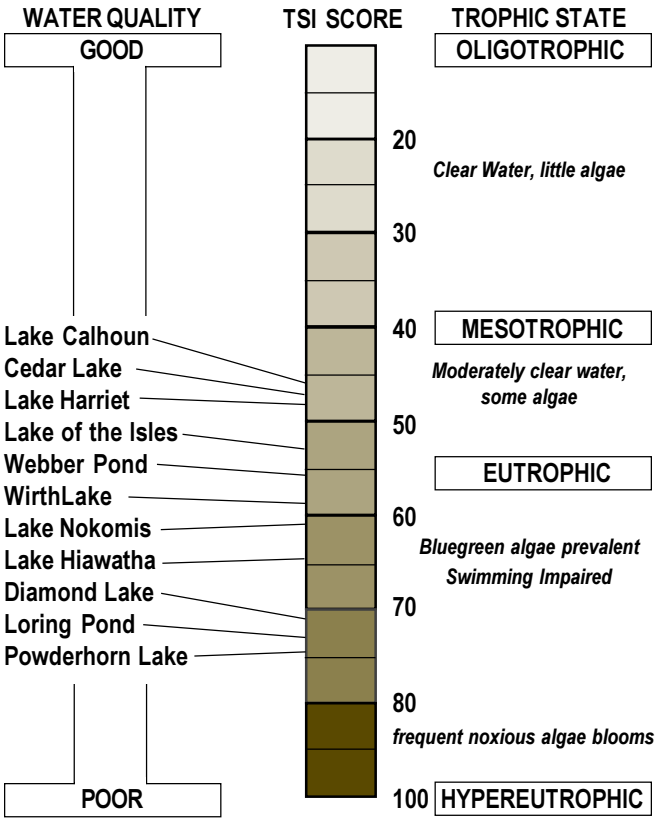
TSI scores range from 0 to 100, with higher numbers indicating more fertility. Lakes with TSI scores below 25 often look like sandy swimming pools, while lakes with TSI scores above 75 will be more like pea soup for much of the summer, or will have very dense aquatic plant growth. In the Twin Cities, it is recommended that a TSI score of 59 or lower be maintained at lakes used for swimming. This recommendation is based upon the potential for degraded aesthetic appeal, not public health risks.

In addition to serving as a tool for rating water quality, the TSI is also used to classify lakes according to their trophic status. All lakes fall into one of three trophic states: mesotrophic, oligotrophic, or eutrophic. By knowing the fertility category for a given lake, lake managers can predict which problems, if any, are likely to occur and what management strategies will probably be the most effective.

Eutrophic lakes have a TSI value greater than 55 and are considered highly fertile, or productive. They often have an abundance of algae due to high phosphorus nutrient supplies. This high algal growth decreases the transparency of the water and gives the water a greenish or brown color. Mesotrophic lakes have a TSI value from 40 to 55. Due to lower nutrient availability in mesotrophic lakes, they are less productive. This decreased fertility results in less algae growth and clearer water. Oligotrophic lakes have a TSI value of less than 40. They are the least productive of the lakes and have the clearest water.

The following figure shows where each of the lakes monitored in 2000 rank based on average TSI score and overall trophic state.

CARLSON'S TROPHIC STATE INDEX



The following table gives the growing season mean TSI values for each of the lakes monitored in 2000.

2000 MEAN TSI (MAY-SEPTEMBER)

	Secci	TP	Chla	AVG
Lake Calhoun	43.58	46.61	48.37	46.19
Cedar Lake	44.76	47.63	48.00	46.80
Diamond Lake		79.94	62.81	71.37
Lake Harriet	44.99	49.67	49.27	47.98
Lake Hiawatha	57.19	70.18	66.29	64.55
Lake of the Isles	48.63	54.57	55.78	52.99
Loring Pond	69.12	76.32	74.58	73.34
Lake Nokomis	56.49	63.78	63.26	61.18
Powderhorn Lake	72.54	77.42	73.53	74.50
Webber Pond		61.85	49.78	55.82
Wirth Lake	55.60	59.51	59.47	58.20

The following table shows the trends based on average TSI score and overall trophic state.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Calhoun	54.3	58.7	50.3	45.6	48.4	46.8	43.2	48.2	46.6	46.2
Cedar	54.1	54.2	61.8	51.9	57.9	50.7	45.2	42.6	44.9	46.8
Diamond	NS	66.7	59.0	65.8	71.4	60.0	67.6	73.1	66.6	71.4
Harriet	47.3	50.5	44.6	47.4	50.6	51.7	43.1	47.2	49.4	48.0
Hiawatha	NS	58.5	58.4	57.0	59.2	59.0	58.3	58.4	58.6	64.6
Isles	55.3	64.2	64.6	58.0	59.5	55.2	51.8	55.5	55.6	53.0
Loring	NS	59.7	59.5	61.4	64.9	65.2	NS	62.7	70.7	73.3
Nokomis	NS	65.1	56.8	59.8	58.1	60.8	60.2	58.1	60.2	61.2
Powderhorn	NS	66.1	67.6	66.5	67.7	68.9	74.8	73.4	72.5	74.5
Webber	NS	58.4	57.0	58.4	57.7	59.2	48.9	51.0	45.8	55.8
Wirth	NS	63.4	63.2	63.9	60.7	57.0	58.8	61.4	60.3	58.2

Values given are the average of TSI scores for Secchi transparency, chlorophyll-a, and total phosphorus levels. Individual TSI scores were calculated from average growing season (May through September) values for each of the three measurements. (NS – Not Sampled Enough Times During the Season to Calculate)

Aquatic Plant infestation by Eurasian Water Milfoil (Myriophyllum Spicatum) in Minneapolis lakes was first detected in 1987. Since that time, this invading species has spread to all of the major recreational lakes in Minneapolis, affecting three hundred acres of our waters. Eurasian milfoil displaces native vegetation and forms dense surface mats that interfere with recreational activities and reduce the aesthetic value of lakes. In order to alleviate the problems associated with milfoil infestation, the Parks and Recreation Board periodically harvests milfoil from a total of 164 acres in Cedar Lake, Lake of the Isles, Lake Calhoun, and Lake Harriet. The staff of the MPRB works with the University of Minnesota to develop biological control methods for Eurasian Milfoil.

In the summer of 1998, the MPRB conducted a comprehensive survey of the aquatic plants in the Chain of Lakes and Lake Nokomis, as well as a visual survey of Diamond Lake. Milfoil was the most frequently occurring species in Lake Nokomis and Cedar Lake, although high densities were noted in all of the lakes surveyed. Native species such as Bushy Pondweed (Najas Flexilus) and Sago Pondweed (Potomogeton Pectinatus) were recorded in greater abundance in the shallower depths where milfoil tends to be less tolerant of wave action. Coontail (Ceratophyllum Demersum), another native species, remains competitive with a higher or equal frequency of occurrence to milfoil in both Lake Calhoun and Lake of the Isles.

Water Quality Management

During their lifetime, many lakes will undergo an increase in their trophic status. In a natural setting, the process of eutrophication usually proceeds slowly, occurring on a time scale of centuries. Urbanization, or development of a lake's watershed, often results in a rapid increase in its trophic state. This process, called cultural eutrophication, prematurely ages lakes, turning clear lakes into very fertile ones in decades. Several of the lakes in the metro area have been undergoing this accelerated process of eutrophication.

In the Minneapolis area, stormwater runoff is the leading cause of cultural eutrophication. All storm drains in Minneapolis flow directly to a lake, stream, or the Mississippi River. With its high levels of phosphorus and sediment, stormwater runoff is very detrimental to water quality. Much of the current management focuses on reducing the amount of sediment and nutrients flowing into the lakes as street runoff.

Stormwater Management Ordinance: In 1999, the city adopted a Stormwater Management Ordinance. The primary purpose of the ordinance is to minimize the negative impacts of stormwater runoff rates, volumes and quality on Minneapolis lakes, streams, wetlands and the Mississippi River. The ordinance establishes standards and specifications for construction and maintenance of stormwater controls for all construction projects one acre and greater in area.

Cost of compliance will vary based on the relative percentage of building, parking lot and green space of a proposed development. Estimated increase in construction costs range from zero costs for a downtown project with no surface parking, $10,000 for a medium-sized project, and up to $150,000 for a large commercial project. Estimates for annual maintenance costs range from $1,000 to $10,000 per year (the larger cost for sweeping programs). In cases where on-site stormwater treatment is impossible, the owner would have the option of contributing a comparable amount to one of the regional stormwater ponds being constructed by the city.

Chain of Lakes Clean Water Partnership: 2000 marked year six of the seven-year Chain of Lakes Clean Water Partnership (COL-CWP), one of the largest urban lake watershed restoration initiatives in the U.S. The partnership's goal is to significantly improve water quality in the five lakes that comprise the seven thousand-acre sub-watershed of the Chain of Lakes (Brownie Lake, Cedar Lake, Lake of the Isles, Lake Calhoun and Lake Harriet). The partnership consists of

the City of Minneapolis, the MPRB, the City of St. Louis Park, the Minnehaha Creek Watershed District, Hennepin County, and the Minnesota Pollution Control Agency. An important component of COL-CWP activities is public education and information that describes specific actions area residents and businesses can take to improve water quality.

From the onset of the project, the COL-CWP has focused on the achievement of their project goals. The six-part goal set by the advisory group for the partnership, the Water Quality Management Citizens Advisory Committee, is to 1) increase public awareness of water quality issues, 2) protect public health and safety, 3) improve government management, 4) reduce in-lake pollutants, 5) reduce pollutant loading through the implementation of best management practices, and 6) monitor lake water quality and management practice effectiveness. The CWP has continued to meet these goals in 2000 through the following activities:

- Develop and promote public education programs.
- Monitor beaches and issue fish consumption advisories when warranted.
- Improve cooperation and governmental management.
- Improve enforcement of existing regulations.
- Implement best management practices such grit chamber installation and street sweeping.

ACTIONS BEING TAKEN ON EACH LAKE BY THE CHAIN OF LAKES CLEAN WATER PARTNERSHIP

Lake	Grit Chambers	Alum Treatment	Wetland/Ponds
Cedar		1996	1996
Brownie			
Isles	one in 1994,		
	three in 2000	1997	
Calhoun	one in 1995,		
	two in 1998	2001	1998-99
Harriet	two in 1996,		
	one in 2000		1998
Total Costs	$700,000	$296,000	$4,713,000

Management of exotics continued to be a priority. The COL-CWP manages Eurasian Water Milfoil in high recreational use areas with a milfoil harvester. The University of Minnesota is examining the use of biological control methods as a potentially longer-term solution. Aquatic weevils that eat Eurasian Milfoil and burrow through the stems were released into parts of Cedar Lake and Lake of the Isles. Research will continue to study how these weevils affect milfoil growth. The COL-CWP manages Purple Loosestrife with biological controls as well as the use of chemical herbicides.

National Watershed Award: The COL-CWP received the CF Industries National Watershed Award in 2000. The award honors innovative approaches to protecting the rivers, streams and lakes that we enjoy, and the water we drink. CF Industries, Inc. is one of North America's largest interregional farm cooperatives.

Watershed Outlet Monitoring Program: The MPRB, in cooperation with the Metropolitan Council, has been monitoring rain events on Minnehaha Creek below Lake Hiawatha from a Watershed Outlet Monitoring Program (WOMP) station since 1999. Rain events increase river flows, cause non-point source pollution runoff from urban and agricultural areas, stream-bank erosion, habitat destruction, and flooding. During dry periods, flows may be too low to sufficiently dilute pollution and may affect habitat. This year, the MPRB collected nine monthly baseflow grab samples and seventeen rain event samples. The Metropolitan Council completes the laboratory analysis and reports the results to the Minnesota Pollution Control Agency.

Wetland and Stormwater Monitoring: In the year 2000, with the re-issuance of the Nationwide Pollution Discharge Elimination System (NPDES) permit for the City of Minneapolis stormwater, the MPRB has actively monitored both stormwater and the wetlands used to treat stormwater before the water enters our lakes. Monitoring is planned or has been done on the Cedar Meadows Wetland, SENA Wetland, and the Harriet Sub-Surface Flow Wetland. Additionally, the MPRB has monitored the 44th and Harriet stormwater site for approximately ten years. MPRB staff use the data collected to characterize the chemical make-up of the stormwater entering our city's lakes and streams, thus helping managers develop plans to improve the quality of our waterways.

2000 Minneapolis Public Beaches Monitoring – Fecal Coliform: Staff of the city's Division of Environmental Health Services collected weekly water samples from public beaches in Minneapolis during the summer season of 2000. They analyzed these samples for bacteria to determine if a health risk was present for swimmers and reported their findings to the MPRB. Total coliform and fecal coliform levels are indicators of contamination. No beaches were closed due to unsafe levels of bacteria during the 2000 swimming season.

High bacterial levels generally occur immediately after rain events in Minneapolis. These bacteria predominantly come from pet and waterfowl wastes that collect in yards, streets, parks, and beaches. Rain washes the bacteria into storm sewers that flow directly into the city lakes. Elevated bacterial levels in lakes generally return to normal levels within 48 hours of a rain event.

TOTAL COLIFORM LEVELS & FECAL COLIFORM LEVELS

Total Coliform Beach Location	6/5/00	6/12/00	6/26/00	7/5/00	7/10/00	7/17/00	7/24/00	7/31/00	8/7/00	8/14/00	8/28/00
Lake Hiawatha	3,000	40	100	>16,000	9,000	2,400	170	2,400	>16,000	2,200	9,000
Lake Nokomis, Main	20	<20	40	>16,000	2,400	1,300	2,400	300	>16,000	500	1,300
Lake Harriet, SE	40	40	300	9000	800	210	40	80	1,300	130	220
Lake Harriet, Main	20	80	80	300	900	500	500	80	2,400	1,700	130
Lake Calhoun, South	80	40	>16,000	>16,000	500	500	700	16,000	>16,000	3,000	800
Lake Calhoun, 32nd St	230	40	800	800	5,000	3,000	1,300	9,000	>16,000	1300	800
Lake Calhoun, Main	140	40	2,400	16,000	1,300	1,300	3,000	16,000	3,000	800	800
Cedar Lake, Main	500	<20	1,100	40	140	1,100	<20	80	1,700	140	1,300
Cedar Lake, Point	20	<20	40	80	80	<20	<20	20	500	<20	300
Wirth Lake	40	70	170	16,000	>16,000	300	80	500	1300	1,700	1,300

Fecal Coliform Beach Location	6/5/00	6/12/00	6/26/00	7/5/00	7/10/00	7/17/00	7/24/00	7/31/00	8/7/00	8/14/00	8/28/00
Lake Hiawatha	300	<20	80	>16,000	1,300	110	70	500	>16,000	300	5,000
Lake Nokomis, Main	<20	<20	40	16,000	500	1,300	800	170	5,000	90	70
Lake Harriet, SE	20	40	130	80	140	110	20	<20	220	40	20
Lake Harriet, Main	20	80	20	80	500	140	130	40	300	500	40
Lake Calhoun, South	<20	20	9,000	16,800	90	300	300	16,000	9,000	3,000	800
Lake Calhoun, 32nd St	130	20	800	300	500	3,000	500	9,000	>16,000	1,300	130
Lake Calhoun, Main	140	40	1,300	9,000	500	230	3,000	16,000	800	800	300
Cedar Lake, Main	300	<20	140	40	70	90	<20	20	40	20	300
Cedar Lake, Point	20	<20	40	<20	20	<20	<20	20	230	<20	40
Wirth Lake	<20	20	110	9,000	800	80	80	130	300	1,300	80

Blue Water Commission and Partnership: The Blue Water Commission (BWC) is a citizens advisory committee, conceived by three Minneapolis neighborhood associations — Hale Page Diamond Lake, Nokomis East, and Standish Ericsson. The group met from November 1997 through May 1998 to evaluate and make recommendations regarding water quality concerns with Lake Nokomis and Lake Hiawatha. Since then, a second group, the Blue Water Partnership, formed to implement the BWC recommendations. This group includes the City of Minneapolis, the Minneapolis Park & Recreation Board, and the Minnehaha Creek Watershed District. Construction activities began in fall 2000.

Lake Levels
In response to earlier flooding episodes, monitoring of lake levels has remained a vital aspect of lake management for the Minneapolis Park and Recreation Board. Analysis of historic lake levels in the Chain of Lakes has shown an upward trend in the average annual lake levels, and the range of lake level fluctuations. Much of this additional water is due to continued urbanization of the Chain of Lakes watershed and the increased runoff volumes and rate of runoff from storm events. Flooding in 1997 led to a redesign of the lake level management system to manage the increased amounts of runoff currently entering the Chain of Lakes.

Water Quality Education
MPRB staff continued water quality education programs throughout the city. Staff created and distributed informational materials, attended neighborhood festivals and events, and continued to expand the outreach program to Minneapolis schools. This program involved the use of two costumed characters, "Crystal Clear" and Billy Bass," who taught a thousand students from eleven Minneapolis' schools about stormwater runoff, watersheds, the water cycle, and the important role that each person plays in keeping the city's waters clean.

"Think Globally, Act Locally" Column: For the seventh consecutive year, MPRB staff wrote a monthly column for the *Southwest Journal* newspaper (circulation of 40,000 in south Minneapolis) called "Think Globally, Act Locally." The column highlighted water quality improvement projects and informed residents how their actions affect water quality.

Catch Basin Stenciling: The catch basin stenciling program educates citizens how pollutants drain into storm sewers and degrade the water quality of local lakes and streams. Stencil applications contained the message "Please Don't Pollute! Drains to River (Creek or Lake)." The MPRB cooperated with the Friends of the Mississippi River, a non-profit environmental organization. Eight hundred volunteers stenciled 2,500 catch basins near the Chain of Lakes and Mississippi River.

Annual Earth Day Watershed Clean-Up: As part of the efforts by the MPRB and city to involve citizens in litter control around local lakes and streams, the sixth annual Earth Day Watershed Clean-Up was held on Saturday, April 22. More than two thousand participants cleaned up more than 7,800 pounds of trash along fifteen Minneapolis shoreline areas including the Chain of Lakes, Shingle Creek, the Minnehaha Creek corridor, the Mississippi River corridor, Grass Lake, Lake Nokomis, Lake Hiawatha and Powderhorn Lake. At each cleanup site, education is an important component of the Earth Day Watershed Clean Up. Many organizations contributed including the Science Museum of Minnesota, Hennepin County Master Gardeners, and The Bell Museum of Natural History.

Educational Partnerships: The MPRB was a partner in two water quality improvement projects — the Lakes Nokomis Hiawatha Blue Water Commission and the Chain of Lakes Clean Water Partnership. Education programs for both of these projects focussed on promoting actions area residents and businesses can take to improve water quality. The MPRB was also an active member of "Watershed Partners," which is a statewide organization that promotes partnerships in water quality education activities.

Air

In 1999, the City of Minneapolis created the Minneapolis Air Quality Management Authority. Toxic air pollutants emerged as a priority for environmental regulators at all levels of government. The city continued to work to address global climate change by promoting energy efficiency and reducing emissions of carbon dioxide and other greenhouse gases.

Air Quality

Our air is a resource in the city just as our water and soil. Because air is invisible, most of us take it for granted until we have a problem with odors, emissions, or smoke. Three major activities affect air quality in Minneapolis: transportation, energy production, and industry. The annual air quality reports issued by the U.S. Environmental Protection Agency (EPA) indicate the city's airshed has seen improvements in all three areas in recent years. This has led to an overall improvement in air quality.

Minneapolis Air Quality Management Authority

The city created the Minneapolis Air Quality Management Authority (MAQMA) in 1999 as part of the effort to update the city's forty-year-old air pollution ordinance. The MAQMA is the municipal entity charged with preventing, controlling, and regulating sources of indoor and outdoor air pollution within the city. The MAQMA has developed a highly responsive air quality program that focuses on reasonable regulations; flexible permitting procedures; and an emphasis on pollution prevention, compliance assistance, and proactive enforcement. The MAQMA is actively involved on a number of fronts aimed at protecting the city's air quality including:

- controlling nuisance odors;
- regulating and reducing vehicle emissions;
- regulating industrial pollution;
- preventing indoor air pollution;
- promoting energy conservation and renewable energy; and
- educating the public about global climate change.

Air Toxics

Air toxics are a type of air pollution that are of great environmental concern because they are toxic, persistent, and they bio-accumulate. Air toxics are chemicals that are known or suspected causes of cancer, neurological changes, and reproductive problems. Air toxics may also impair the body's immune function and disrupt endocrine functioning. In addition to human health impacts, air toxics may cause damage to natural ecosystems by negatively affecting population survival, bio-diversity, and the sustainability of ecosystems. Since these pollutants are known to have the potential to cause ecological and biological damages, they are worthy of control and regulation.

It is believed that over sixty thousand chemicals are currently in commercial use, with approximately one thousand being added each year. Of these, at least five hundred are of great environmental concern due to their:

- toxicity;
- tendency to bio-accumulate;
- presence in detectable quantities in various environmental media; and
- persistence in the environment.

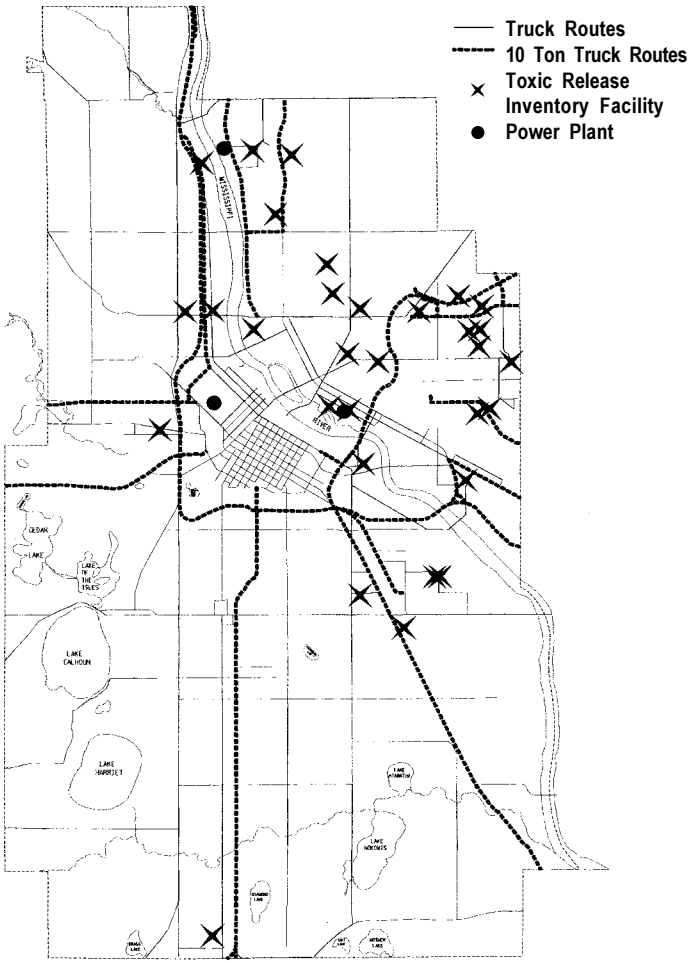
Like Criteria Pollutants (carbon monoxide, nitrogen oxide, sulfur dioxide, particulate matter, lead, and ozone), air toxics are emitted from a variety of sources including mobile, stationary, and area sources. Since a national, long-term, monitoring-and-emissions-tracking program similar to that for Criteria Pollutants does not exist for air toxics, little is known about their emissions and ambient air concentrations. The development of comprehensive data on air toxics is complicated by several factors: the number of chemical compounds involved; the number and variety of sources emitting the compounds; the low concentration of some toxics; and the potential for secondary formation of one toxic from other, often less-toxic, compounds.

In the past, federal, state and local environmental agencies focused most of their attention on reducing emissions of Criteria Pollutants from stationary sources such as manufacturing facilities, utilities, and waste incinerators. However, recent studies indicate that cars, trucks, and other very small sources are responsible for much more of the air toxics pollution problem than was previously believed. For this reason, encouraging smart growth and transit are effective strategies for controlling and reducing toxic air emissions.

The EPA annually tracks toxic chemicals emitted by facilities across the country. Individual facilities provide the EPA information regarding the amount and type of air toxins in accordance with the Clean Air Act. In addition to compiling data on the Criteria Pollutant emissions, the EPA updates its Toxic Release Inventory (TRI) of hundreds of toxic chemicals and makes it available to states and cities for strategic planning and resource distribution purposes.

Currently, the Environmental Management Section of the Department of Operations and Regulatory Services uses the TRI report in conjunction with the MN Toxicity Index, developed by the MPCA in 1993, to compare the relative potential effects of chemicals released. By targeting the chemicals with the greatest potential for harm, the city dedicates resources where they have the best chance for significant pollution prevention. By developing pollution prevention partnerships with industrial facilities, Minneapolis provides educational and technical resources that will reduce toxic air emissions.

TOXIC RELEASE INVENTORY FACILITIES
COMPILED BY THE MPLS. ENVIRONMENTAL SECTION



In 2000, the city began working cooperatively with the Minnesota Pollution Control Agency (MPCA) to draft and issue Air Emission Permits to companies within the city. These permits incorporate specific operating and emission limits and requirements governing pollution control, pollution prevention, monitoring, record keeping, and reporting.

In addition to hazardous or toxic air emissions, the city is also responsible for investigating and resolving complaints regarding nuisance odors and smoke. These problems can arise from many sources including poorly maintained buses and mechanical equipment, restaurant exhaust, industrial processes, and construction activity.

Energy

Urban CO_2 Reduction Project: In 1991, an agency of the United Nations called the International Council for Local Environmental Initiatives (ICLEI), selected Minneapolis and Saint Paul to participate in the Urban CO_2 Reduction Project. This project was the first designed to mobilize local governments in the global effort to postpone the adverse effects of global climate change.

Carbon dioxide (CO_2) emissions are the primary contributor to global warming, the "greenhouse effect." Thirteen other cities from around the world participated in the project. Currently, more than 350 local governments worldwide participate as members of ICLEI's climate change projects.

The chief product of the Urban CO_2 Reduction Project was the development of CO_2 reduction plans. In December 1993, the Minneapolis and Saint Paul City Councils adopted such a plan, titled the *Minneapolis-Saint Paul Urban CO_2 Reduction Project Plan: A Framework for Developing Strategies to Reduce CO_2 Emissions, Save Taxes, and Save Resources*. The plan calls for reducing by 2005 carbon dioxide emissions by 20 percent from 1988 levels, with an intermediate goal of 7.5 percent by 1997.

The plan broke down the CO_2 reduction goals according to the following sectors:

2005 CARBON DIOXIDE REDUCTION GOALS BY SECTOR (TONS OF CO_2)

Municipal strategies	117,861	Energy efficiency	2,239,912
Transportation	1,209,223	Energy supply strategies	468,357
Urban reforestation	9,923	Solid waste and recycling	5,954

Total reduction goal: 4,051,230

In response to the Urban CO_2 Project Plan, the Minneapolis City Council adopted the Minneapolis Energy Plan in 1996. The Energy Plan stressed implementation of energy efficiency measures with a payback of ten years or less as the primary implementation tool to postpone the effects of global climate change, save money, and conserve scarce energy resources.

In 1999, the Environmental Management Section evaluated some of the measures the city has taken to implement the CO_2 Reduction Plan and the Energy Plan.* The following describes the reductions in pollutants from 1988 to 1999 and the cost savings associated with three of the above sectors from the CO_2 Reduction Plan:

1. **Municipal Strategies:** A key strategy in the Urban CO_2 Project Plan is for municipalities to serve as examples to the private sector. Currently, the city has three programs to maximize energy efficiency and three additional programs under development:

   - **Municipal building and street light retrofits:** In conjunction with NSP, the city retrofitted 104 buildings as part of a five-year program to maximize energy efficiency (1994 to 1998).

   - **Minneapolis Public Housing Authority (MPHA):** The MPHA strengthened its operational efficiency beginning in May 1997 by improving energy efficiencies at 32 buildings.

   - **Minneapolis Public Schools (MPS):** the MPS has worked in conjunction with the Honeywell Corporation since 1993 to track and increase energy efficiency in city schools.

   Summary of Municipal Strategies, 1999:

CO_2 Sector Goal	117,861 tons
City Status	51,917tons
Percent of Goal	290%
Annual Savings	$5,490,112

2. **Transportation Sector:** The transportation sector is responsible for the greatest amount of CO_2 emissions. The following describes private and public sector strategies to reduce emissions:

   - **Street light timers:** The city saved substantial amounts of energy when, in 1983, it computerized semaphores throughout the downtown to smooth commuter traffic.

   - **Car and vanpooling:** People who commute primarily via car and van pools comprise about 11 percent of the Minneapolis workforce.

   - **Public transit:** People who commute primarily via transit comprise about 17 percent of the Minneapolis workforce.

   - **Commuter biking:** Approximately 1,000 people commute via bicycle.

   Summary of Transportation Sector, 1999:

CO_2 Sector Goal	1,209,223 tons
City Status	71,797 tons
Percent of Goal Met	6%
Annual Savings	$16,152,023

3. **Solid Waste and Recycling:** City operated and managed solid waste and recycling efforts have contributed to a substantial decrease in CO_2 emissions.

   Summary of Solid Waste and Recycling Sector, 1999:

CO_2 Sector Goal	5,954 tons
City Status	240,711 tons
Percent of Goal Met	4,043%

Summary of the Three Sectors, 1999:

CO_2 Total Goal	4,051,230 tons
City Status	364,425
Percent of Goal Met	9%
Annual Savings	$21,642,135

** Sources: The city relied on its own consultants for estimates of CO_2, energy and air pollution reductions for the municipal strategies. For the solid waste and transportation sectors, the city used software developed by the International Council for Local Environmental Initiatives. Estimates are subject to change as new information becomes available*

Air Pollution Reductions: The energy efficiency measures listed on the previous page have resulted in the following reductions in air pollution in Minneapolis in 1999:

Nitrogen oxides (NO_x): ..... 586 pounds
Sulfur oxides (SO_x): ..... 527 pounds
Volatile organic compounds (VOC): ..... 145 pounds
Carbon monoxide (CO): ..... 1,447 pounds
Particulate matter (PM-10): ..... 42 pounds

ICLEI Cities for Climate Protection Milestone Award: At the most recent ICLEI conference held in New Orleans in September, the city accepted the ICLEI Cities for Climate Protection Milestone Award. The award's five stars symbolize the highest achievement a city can attain in its ongoing effort to improve energy efficiency and reduce greenhouse gas emissions. In addition to Minneapolis, only four other U.S. places received ICLEI's highest recognition of five stars: Saint Paul; Portland, Oregon; Chula Vista, California; and Miami-Dade County in Florida.

Crown Mill Hydropower Project at St. Anthony Falls: On March 1, 1999, the Federal Energy Regulatory Commission (FERC) issued a fifty-year license to the Crown Hydro Company to construct, operate and maintain the Crown Mill Project. With the cooperation of the Crown Mill Company, the Minneapolis Parks and Recreation Board is considering municipalizing the Crown Mill Project. The Park Board estimates its use of electricity at a cost of $1,170,000 for 12.8 million kWh per year. Projected generating capacity for the Crown Mill Project is between 13-17 million kWh per year, enough to cover the MPRB's energy needs at wholesale prices. If this project is enacted, an estimated 10 percent of the city's energy portfolio would be renewable. After the twenty-year revenue bond is repaid, the city could realize an annual profit between $500,000 - $600,000 per year.

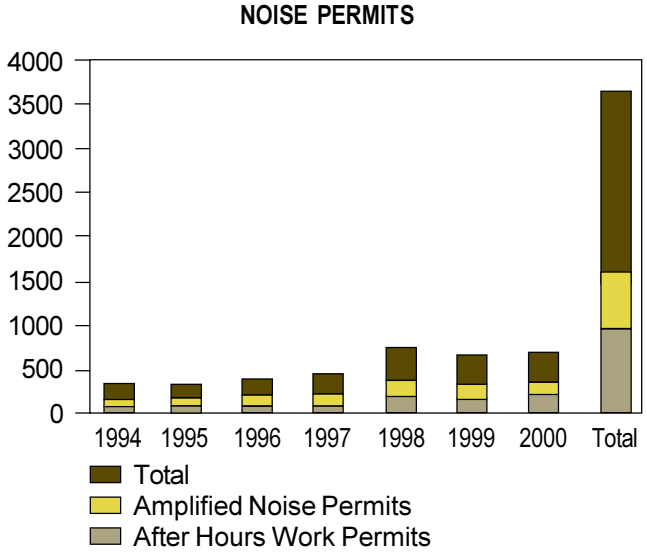
Noise
Residents who live and work in urban environments are subjected to noise from many sources, generally categorized as construction, mechanical, transportation, and domestic.

Environmental Management Section Responsibilities: With the exception of airport noise, the Environmental Management Section of the Department of Operations and Regulatory Services monitors noise in the city, responds to complaints involving noise, and works to prevent sources of noise from becoming neighborhood problems.

To address construction and amplified noise, Environmental Management staff issue permits for work done outside of regular business hours. This permit system places controls on noise sources by limiting the level and duration of noise and by imposing other mitigating conditions depending upon the circumstances. Inspectors monitor work and take steps to revoke permits when necessary.

In 1999, the city assigned an Environmental Inspector to work with the Police and Regulatory Services Departments and develop a comprehensive Noise Control Program. The program focuses on preventing noise in the first instance, and controlling or moderating it where necessary. To this end, the Environmental Inspector formed a Noise Control Steering Committee, which is working with the Police Administration, individual precincts, and CCP Safe units to enforce noise ordinances, and provide information useful to Patrol officers. The city's website includes Information about the city's noise ordinance, control efforts, and tips on dealing with noise problems.

The following chart describes recent trends in noise-related permits:



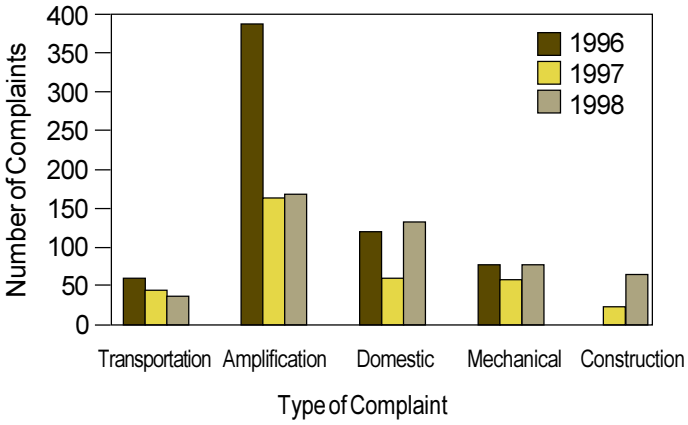
Mechanical noise complaints generally involve problems with roof or ground mounted mechanical equipment, such as air handling equipment or exhaust systems. The city usually mitigates these problems through regulatory orders. Corrective action varies by situation, but most commonly involves adjustment or relocation of equipment, installation of sound barriers or, when necessary, the restriction of equipment usage hours.

Transportation complaints are among the most difficult to resolve due to the mobility of the noise source and the complexity of intergovernmental relations. Complaints generally involve motorcycles, trucks, and buses, but can also involve automobiles. The city addresses these problems through contact with owners and appropriate agencies, such as MnDOT, Metro Transit, and city departments such as Public Works and Licenses and Consumer Services. Typical domestic noise issues arise over radios and stereo systems, barking dogs, chainsaws, leaf blowers, lawnmowers, and snow blowers.

In 1998, the Minneapolis City Council passed amendments to the 1997 noise ordinance. The ordinance makes it unlawful for any person to make, continue, or permit any loud, disturbing or excessive noise that would likely cause significant discomfort or annoyance to a reasonable person of normal sensitivities present in the area.

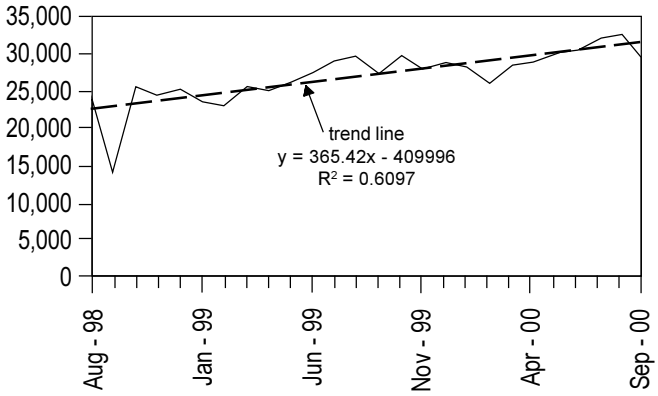
The dramatic reduction in noise complaints from 1996 to 1997, as shown in the following chart, is attributable to a significant decrease in 'boom car' complaints that resulted from greater police enforcement activity. 'Boom car' noise had been increasing over a number of years, not only in Minneapolis but also across the country, and became a major issue in the city in 1996. Environmental Management staff held many meetings with representatives of the Police Administration, the Police Precincts, 911 program administrators, and the Park Police, and worked closely with the City Council to target this type of noise. This collaboration resulted in greater enforcement and a major reduction in complaints.

1996 - 98 NOISE COMPLAINTS



Airport Noise: Airport noise is a significant problem for Minneapolis residents. However, the City of Minneapolis has no direct regulatory authority related to airport noise and therefore has only a limited role in its control. The city's primary role is as an advocate for measures to reduce noise impacts. Aircraft operations, arrivals and departures, are one of the essential components of airport-related noise. As the following chart shows, the aircraft operations of the major carriers have increased approximately 20 percent annually over the past two years.

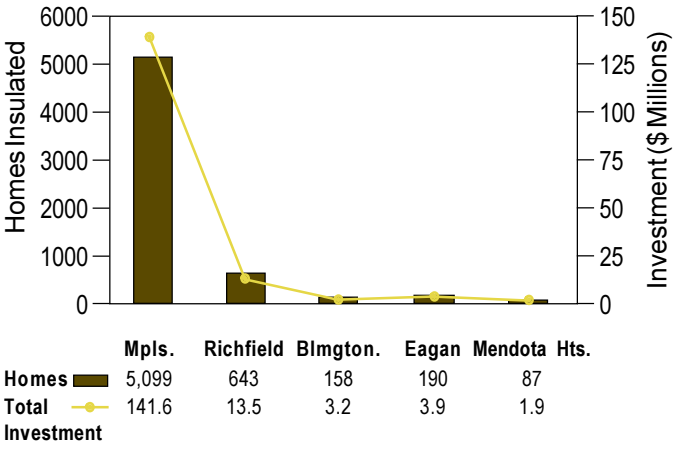
MSP AIRPORT: ARRIVALS AND DEPARTURES (MAJOR AIRLINES ONLY)



Sound Insulation Program: One strategy for ameliorating airport noise is sound insulation of structures. The city is participating in the Part 150 Sound Insulation Program for residential structures in the high impact noise area close to the airport. The program is meant to preserve and improve neighborhoods while making the internal environment of a home more compatible with exterior aircraft noise. Treatment methods address noise infiltration through doors, windows, walls, and roofs. The goal is a five-decibel reduction in sound for habitable rooms, approximately equal to doubling the distance of the aircraft from the home's roof. Eligibility for the program is determined based on a periodically updated, five-year projected day/night noise level. Funding for the program is from airport and airline generated funding sources. No general, property, or income taxes are used for the program.

Since 1992, 6,177 city homes have been insulated through the program with an investment of $164.1 million. The following two charts show the number of homes insulated and the total investments by year. The third chart compares the number of homes insulated and the associated costs by the participating cities in the region.

MAC PART 150 SOUND INSULATION PROGRAM: REGIONAL PROGRAMS



Because of perceptions regarding imminent, dramatic threats to public safety, most attention and resources nationally tend to focus on preparedness and response. In addition to maintaining highly developed preparedness and response functions, the city has developed a prevention strategy comprised of education, technical assistance, facilitation, and regulatory oversight.

Minneapolis Emergency Plan
The city has a well-developed and effective emergency plan that details the city's planned responses to a range of emergency scenarios. In 1998, the city responded to incidents involving straight-line winds, flooding, hail storms, and chemical accidents. As recently as ten years ago, the city experienced a major drought.

For every natural disaster, environmental emergency, or accident, it is helpful to identify four stages that constitute the "life cycle" of the event: prevention, preparedness, response, and recovery:

- **Prevention:** Prevention activities either prevent the occurrence of an emergency or reduce the community's vulnerability in ways that minimize the adverse impact of a disaster or other emergency.

- **Preparedness:** Preparedness programs are in place before an emergency or disaster. Planning, training, and exercising are among the activities conducted under this phase.

- **Response:** Response activities and programs address the immediate and short-term effects of the onset of an emergency or disaster, reduce casualties and damage, and speed recovery. Response activities include direction and control, warning, evacuation, and other similar functions.

- **Recovery:** Recovery involves restoring systems to their normal states. Short-term recovery actions assess damage and return vital life-support systems to minimum operating standards. Long-term recovery actions may continue for many years.

Hazardous Materials
By agreement with the U.S. Environmental Protection Agency, the State of Minnesota bears direct regulatory responsibility for toxic chemicals (MN Department of Agriculture for pesticides, MN Pollution Control Agency and Department of Public Safety for others). However, local governments also play an important role in the regulatory process through city codes that regulate zoning, environmental matters, and fire.

Although the city faces fewer threats from toxic chemicals than other more industrialized areas of the country, potential threat to public safety are still very serious. The city's focus tends toward commercial and industrial users of pesticides and other toxic chemicals. However, because the cumulative impact of hazardous product use by households is enormous, city concerns also include the domestic consumer. It is basic public policy to prevent and minimize exposures from accidental or permitted releases of toxic chemicals including pesticides. It is important to realize toxic chemicals used in the community must be safely used and stored, and when possible, replaced with safer alternatives.

The local emergency preparedness community has formed a new group in Minneapolis to voluntarily improve coordination and foster public awareness of hazardous materials in the Twin Cities. The new group, Metro Community Awareness Emergency Response (CAER), is a joint initiative of businesses, community members, and local government including the City of Minneapolis. Metro CAER will focus its energies in two areas:

- Foster public awareness of hazardous materials in or being transported through the Twin Cities and measures in place to protect the community.

- Assure emergency preparedness through integration of private and public response agencies.

People enjoy the urban environment in Minneapolis for the high quality of all of the features discussed earlier in this Chapter, and for its built environment and urban character.

Two important organizations actively involved in improving the city's built environment through efforts related to design, aesthetics, beautification, and history are the Heritage Preservation Commission (HPC) and the Committee on Urban Environment (CUE). They provide assistance and recommendations, and are involved in educational and outreach efforts to increase awareness of preservation, stewardship, and improvement of the urban environment.

Heritage Preservation Commission
The Minneapolis Heritage Preservation Commission (HPC) is a ten-member, citizen advisory body to the Minneapolis City Council. The primary duties of the HPC are to evaluate the architectural and historic significance of buildings, landscapes, districts, and sites; recommend buildings, districts, and sites for local historic designation; review all building, sign, awning, and demolition permits for designated buildings; and increase public awareness about preservation.

Between October 1, 1999 and September 31, 2000, the HPC reviewed 48 building permits, 10 sign permits, 15 demolition permits, and 1 moving permit. Additionally, the HPC granted one concept approval and performed 12 pre-permit reviews. In the same period, HPC staff approved 128 Certificates of No Change (CNC) for minor repair work, and approved 370 demolition permits. While the number of permits reviewed by the HPC remained steady with 1999 levels, the number of CNCs approved by the HPC staff increased 48 percent in 2000.

The HPC continued to offer its many education and outreach programs in 2000. In the winter of 2000, the HPC sponsored two Winter Home Tours, and a tour of the Grain Exchange Building. In May, the HPC sponsored Preservation Week. Activities included walking tours, lectures, the luncheon, and a Preservation Awards Ceremony. During the summer of 2000, the HPC, in conjunction with the Hennepin History Museum and the Minnesota Historical Society, offered ten walking tours, which is nearly double the level offered in previous years.

The commission obtained a grant from the State Historic Preservation Office to complete an architectural and historic sites survey of Downtown Minneapolis and parts of the Powderhorn and Phillips neighborhoods. Three properties were designated by the City Council as local landmarks in 2000. The properties include:

- Band Box Restaurant, 729 South Tenth Street
- Montefiore Chapel and Cemetery, 4153 Third Avenue South
- Shoreham Yards Roundhouse, 2800 Central Avenue

Committee on Urban Environment
The City Council formed the Committee on Urban Environment (CUE) in 1968 to foster improvement of the natural and built environment in Minneapolis. CUE is a citizen advisory committee with 29 voting members and five subcommittees (Executive, Neighorhood Environment, Shade Tree, Urban Design, and Research-Education). The Mayor, City Council President, and the City Council appoint 19 Minneapolis residents to CUE. Representatives from the following hold the ten remaining seats:

- Mayor
- Minneapolis Park & Recreation Board
- Minneapolis School Board
- Minneapolis Library Board
- Minneapolis Community Development Agency
- City Planning Commission
- Hennepin County Board of Commissioners
- Minneapolis Arts Commission
- Minneapolis Downtown Council
- University of Minnesota Urban Design Center

CUE's role is to encourage the development of natural and human-made beauty, historic preservation, public art, cultural amenities, urban aesthetics, and improved city livability through the promotion of Minneapolis Beautification.

This year's activities included 1,144 Blooming Boulevard Awards, an Arbor Day planting event, and Minneapolis Blooms! Day. Joyce Vincent received the Nate Siegel Award (Minneapolis' top gardening honor) for her decade long commitment to horticulture, which has inspired an estimated 25 new gardens in the Boom Island Village.

29th (Year 2000) CUE AWARDS
Keynote speakers Joan Mondale, Chair of the Hiawatha Public Art and Design Committee, and Ted Mondale, Chair of the Metropolitan Council, spoke on public and private sector commitment to the artistic enrichment and beautification of the urban environment at the Year 2000 CUE Awards ceremony. Mayor Sharon Sayles Belton and City Council President Jackie Cherryhomes narrated the program and presented twenty CUE Awards for significant achievement in design and aesthetic excellence. For more information on the Committee on Urban Environment call 612-673-3014 or email CUE@ci.minneapolis.mn.us

THE YEAR 2000 CUE AWARD FINALISTS
(Winners in Bold):

Ancient Traders Market
Bakken Library and Museum of Electricity in Life
Beautiful U Campaign
Brackett Park Community Center
Celebrating Families in Phillips
Calhoun Commons/West Calhoun Village Center
Elwell Park
Hennepin Theatre District: Building an Urban Identity
Humboldt Greenway
Hiding in Plain Sight: Minneapolis' First Neighborhood
Jordan Park School
Joseph Selvaggio Initiative
Lake Calhoun Wetlands
Lake Harriet Elf
Lake Nokomis Savanna Restoration
Lake Street USA
Len's Amoco Flower Garden
Little Earth Early Learning Center
little LOTS
Lowry Hill East Neighborhood Signs
Lyndale Welcome Sign Project
Marcy Holmes Neighborhood Signs
Mercado Central
Midtown YWCA
Midtown Greenway-Phase I
Minneapolis Convention Center Parking Facility
Minnesota Fringe Festival
Park Avenue United Methodist Church
Phillips Eco Enterprise Center
Stinson Business Center
Summit Academy OIC
Sebathanite Drum and Bugle Corps
Touchstone Plaza
Waite Park Community Garden
Wheels as Art
Windom School & Community Center